

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Title V Operating Permit Revision



For Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Action Number: MM01 **SIC:** 1321
Name of Permittee: Williams Ohio Valley Midstream LLC
Facility Name/Location: Oak Grove Gas Plant
County: Marshall
Facility Address: 100 Teletech Drive, Suite 2
Moundsville, WV 26041

Description of Permit Revision: This modification is based on the permit R13-3070D, and covers a decrease of Truck Loadout slop oil/condensate throughput and a reduction of the maximum quantity of slop oil/condensate throughput (to offset the HAPs PTE increase discovered during the site-specific sampling and analysis), a reduction of each tank's (10E through 13E) annual throughput, a decrease of the Flare Control Device emission limits, an increase of the emission limits of the Amine Process Vent, and an increase of the maximum Gas Processing Plant wet natural gas throughput to 755 MMscf/day.

Title V Permit Information:

Permit Number: R30-05100157-2021
Issued Date: May 24, 2021
Effective Date: June 7, 2021
Expiration Date: May 24, 2026

Directions To Facility: From Lafayette Ave in Moundsville, head East onto 12th St ~ 1.1 miles. Continue onto Fork Ridge Rd ~5.4 miles. Site entrance is on the left.

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

Laura M. Crowder

Laura M. Crowder

Digitally signed by: Laura M. Crowder
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C = US, O = West Virginia Department of Environmental
Protection, OU = Division of Air Quality
Date: 2022.01.25 14:11:12 -05'00'

January 25, 2022

Laura M. Crowder
Director, Division of Air Quality

Date Issued

Permit Number: **R30-05100157-2021**
Permittee: **Williams Ohio Valley Midstream LLC**
Facility Name: **Oak Grove Gas Plant**
Permittee Mailing Address: **100 Teletech Drive, Suite 2; Moundsville, WV 26041**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location: Moundsville, Marshall County, West Virginia
Facility Mailing Address: 100 Teletech Drive, Suite 2, Moundsville, WV 26041
Telephone Number: (304) 843-3100
Type of Business Entity: LLC
Facility Description: Natural Gas Processing Facility
SIC Codes: 1321
UTM Coordinates: 526.25 ~~525.9~~ km Easting • 4,413.81 ~~4,414.1~~ km Northing • Zone 17

Permit Writer: Natalya V. Chertkovsky-Veselova

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed/Modified	Design Capacity	Control Device
Oak Grove Gas Processing Plant					
H-01	1E	TXP1 Hot Oil Heater	2013 / 2016	26.26 MMBTU/hr	None
H-02	2E	TXP1 Regen Gas Heater	2013 / 2016	9.40 MMBTU/hr	None
H-03	3E	TXP2 Regen Gas Heater	2013 / 2016	20.30 MMBTU/hr	None
H-04	4E	TXP3 Regen Gas Heater	2013 / 2016	20.30 MMBTU/hr	None
H-05	5E	DeC2 Hot Oil Heater	2013 / 2016	68.33 MMBTU/hr	None
H-06	6E	DeC2 Hot Oil Heater	2013 / 2016	68.33 MMBTU/hr	None
H-07	7E	DeC2 Regen Gas Heater	2013 / 2016	10.44 MMBTU/hr	None
FL-1 ⁽¹⁾	8E	Process Flare	2013 / 2016	<u>630.19 MMscf/yr</u> <u>208,000 lb/hr</u>	None
GEN-1	9E	Standby Generator	2013 / 2016	224 HP	None
TK-1	10E	Slop Oil/Condensate <u>Tank</u>	2013 / 2016	16,800 gallon	None
TK-2	11E	Slop Oil/Condensate <u>Tank</u>	2013 / 2016	16,800 gallon	None
TK-3	12E	Slop Oil/Condensate <u>Tank</u>	2013 / 2016	16,800 gallon	None
TK-4	13E	Slop Oil/Condensate <u>Tank</u>	2013 / 2016	16,800 gallon	None
TL-1	14E	Truck Loadout – <u>Slop Oil/Condensate</u>	2013 / 2016	<u>24,000,000 gal/yr</u>	None
FUG-G	15E	Piping and Equipment Fugitives-Gas	2013 / 2019	n/a	LDAR
FUG-L		Piping and Equipment Fugitives-Light Liquid	2013 / 2019	n/a	
FUG-M		Piping and Equipment Fugitives-Mix Gas/Liquid	2013 / 2019	n/a	
V-01	16E	Amine Process Vent	2013 / 2016	1,848,000 gal/day	FL-1 ⁽¹⁾
RPC- <u>1</u>	17E	Rod Packing – Reciprocating Compressors	2013 / 2016	<u>3 Recips #/a</u>	None
DGS	18E	Dry Gas Seals – Centrifugal Compressors	2013 / 2016	<u>8 Centrifugal #/a</u>	None
-	-	<u>00-V-823 Common Closed Drain Vessel</u>	<u>2014</u>	<u>2,200 gal</u>	<u>None</u>
-	-	<u>00-V-817 Flare Knockout Vessel</u>	<u>2014</u>	<u>25,000 gal</u>	<u>None</u>
-	-	<u>21-ST-810 Lube Oil Day Tank</u>	<u>2014</u>	<u>300 gal</u>	<u>None</u>
-	-	<u>21-V-809 Closed Drain Vessel</u>	<u>2014</u>	<u>4,500 gal</u>	<u>None</u>
-	-	<u>21-V-701 Hot Oil Surge Tank</u>	<u>2014</u>	<u>2,300 gal</u>	<u>None</u>
-	-	<u>21-V-828 De-Ethanizer Surge Tank</u>	<u>2014</u>	<u>70,000 gal</u>	<u>None</u>
-	-	<u>21-ST-801 De-Ionized Water Storage Tank</u>	<u>2014</u>	<u>16,800 gal</u>	<u>None</u>
-	-	<u>21-ST-802 Amine Storage Tank</u>	<u>2014</u>	<u>4,200 gal</u>	<u>None</u>

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device
-	-	<u>21-ST-803 Raw Regen Water Storage Tank</u>	<u>2014</u>	<u>16,800 gal</u>	<u>None</u>
-	-	<u>21-ST-806 Used Amine Storage Tank</u>	<u>2014</u>	<u>25,000 gal</u>	<u>None</u>
-	-	<u>21-HTR-703 Hot Oil Heater</u>	<u>2014</u>	<u>2,662 gal</u>	<u>None</u>
-	-	<u>21-HTR-704 Hot Oil Heater</u>	<u>2014</u>	<u>2,662 gal</u>	<u>None</u>
-	-	<u>31-ST-980 Lube Oil Day Tank</u>	<u>2014</u>	<u>300 gal</u>	<u>None</u>
-	-	<u>32-ST-980 Lube Oil Day Tank</u>	<u>2014</u>	<u>300 gal</u>	<u>None</u>
-	-	<u>31-V-801 Feed Separator</u>	<u>2014</u>	<u>1,700 gal</u>	<u>None</u>
-	-	<u>32-V-801 Feed Separator</u>	<u>2014</u>	<u>1,700 gal</u>	<u>None</u>
-	-	<u>01-ST-863 Residue Compressor Lube Oil</u>	<u>2014</u>	<u>335 gal</u>	<u>None</u>
-	-	<u>01-ST-884 Turbo Expander Bullet Tank</u>	<u>2014</u>	<u>60 gal</u>	<u>None</u>
-	-	<u>01-V-868 Closed Drain Vessel</u>	<u>2014</u>	<u>370 gal</u>	<u>None</u>
-	-	<u>01-V-403 Cold Drain Tank</u>	<u>2014</u>	<u>3,500 gal</u>	<u>None</u>
-	-	<u>01-V-860 Inlet Gas Separator</u>	<u>2014</u>	<u>380 gal</u>	<u>None</u>
-	-	<u>01-V-402 Cold Separator</u>	<u>2014</u>	<u>7,500 gal</u>	<u>None</u>
-	-	<u>Diesel Tank</u>	<u>2014</u>	<u>500 gal</u>	<u>None</u>
-	-	<u>Gasoline Tank</u>	<u>2014</u>	<u>500 gal</u>	<u>None</u>
Francis Compressor Station					
CE-01	22E	Caterpillar G3516B 4-Stroke Lean Burn (4SLB) Compressor Engine	2016 / 2017	1,380 hp	OxCat ⁽²⁾ (1-OXCAT)
RPC-3	23E	Rod Packing/Crankcase Leaks ⁽³⁾	2016 / 2017	n/a	n/a
SSM-2	24E	Start/Stop/Maintenance	2016 / 2017	n/a	n/a
FUG-3	25E	Piping and Component Fugitive-Gas	2016 / 2017	n/a	n/a
		Piping and Component Fugitive– Light Liquid			
		Piping and Component Fugitive– Mix Gas/Liquid			

- (1) The amine unit flash tank offgas is either burned in the flare or used as fuel. The amine unit regenerator overheads are emitted directly to the atmosphere.
 (2) OxCat = Oxidation Catalyst
 (3) Rod packing leaks are from two compressors, one driven by the Caterpillar G3516B Engine (CE-01) and the other driven by an electric motor.

Control Devices

Emission Sources	Pollutant	Control Device	Control Efficiency
Inlet Gas: TXP Blowdowns TXP Start-Up and Dry-out Balance of Plant Volumes Filters Change-Out Compressor Maintenance Amine Unit Flash Gas Gas Pig Trap Blowdown Compressor Dry Gas Seals	Volatile Organic Compounds	Process Flare (FL-1)	99.0 %

Emission Sources	Pollutant	Control Device	Control Efficiency
Other/Miscellaneous <u>Ethane:</u> Ethane Feed <u>NGL:</u> Liquid Pig Trap Blowdown TXP Tanks Liquid Dry-Out Pump Maintenance: <u>Residue Gas:</u> Purge Gas Pilot Gas	Total HAPS		99.0 %

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-3070DC	September 14, 2021-October 17, 2019
R13-3289B	October 12, 2017

2.0 General Conditions

2.1 Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2 Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

- 2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

2.17. Emergency

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[45CSR§30-5.7.a.]

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.

[45CSR§30-5.7.b.]

- 2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The permitted facility was at the time being properly operated;
- c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.

[45CSR13, R13-3070, 4.1.2.]

- 3.1.10. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, R13-3070, 4.1.3.; R13-3289, 4.1.5]

- 3.1.11. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at this permitted facility.

[45CSR13, R13-3070, 4.1.5.]

3.2. Monitoring Requirements

- 3.2.1. N/A

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13, R13-3070, 6.1.1.]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-3289, 4.4.1. and R13-3070, 4.1.1]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

- 3.4.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-3070, 4.1.4., 45CSR13, R13-3289, 4.4.3.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[45CSR§§30-4.4. and 5.1.c.3.D.]

- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

[45CSR§30-5.1.c.3.E.]

- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as

set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

¹For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. **[45CSR§30-8.]**

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. N/A

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

- a. **45CSR14—Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration:** The Oak Grove Natural Gas Processing Facility is located in Marshall County, WV. Marshall County is classified as "attainment" with all National Ambient Air Quality Standards (NAAQS). Therefore, applicability to major New Source Review (NSR) for all pollutants is determined under 45CSR14.

As the facility is not a "listed source" under 45CSR§14-2.43, the individual major source applicability threshold for all criteria pollutants is 250 TPY. The facility-wide PTE of the Oak Grove Natural Gas Processing Facility is less than 250 TPY for all criteria pollutants. Therefore, the facility is not defined as a "major stationary source" under 45CSR14.

It is also important to note that the facility does not contain a "nested" major stationary source - in this case a secondary listed source: "Fossil Fuel Boilers (or combinations thereof) Totaling More than 250 Million Btu/hour Heat Input." All the natural-gas fired heaters would contribute to this 250 mmBtu/hr threshold. However, the aggregate MDHI of all the heaters is 223.36 mmBtu/hr. Therefore, no "nested" source is located at the Oak Grove Natural Gas Processing Facility.

- b. **40 CFR 60, Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984:** Subpart Kb of 40 CFR 60 is the NSPS for storage tanks containing Volatile Organic Liquids (VOLs) for which construction commenced after July 23, 1984. The Subpart applies to storage vessels used to store volatile organic liquids with a capacity greater than or equal to 75 m³ (19,813 gallons). Majority of the tanks at this facility don't have a capacity greater than 75 m³, therefore this subpart does not apply. The three tanks with the capacity greater than 75 m³ each also not subject to this subpart because of the following:

- 1) The Flare Knockout Vessel (00-V-817) is a process tank, and not a storage vessel (as per 40 C.F.R. §60.111b Definitions – Process tank & Storage Vessel). It condenses any remaining organics/water, etc. in the waste gas stream prior to combustion in the flare. This vessel empties to other equipment in the closed drain system in the plant. Therefore, 40 C.F.R. 60, Subpart Kb is not applicable.
- 2) The De-Ethanizer Surge Tank (21-V-828) is also a process tank and not a storage vessel (as per 40 C.F.R. §60.111b Definitions – Process tank & Storage Vessel). It is a surge control vessel used for surge control for the De-Ethanizer process. It is also a pressurized tank that operates in excess of 204.kPa (typically around 200-240 psig [1379-1655 kPa]) with no emissions to atmosphere. Therefore, 40 C.F.R. 60, Subpart Kb is not applicable per 40 C.F.R. §60.110b(d)(2).
- 3) The Used Amine Storage Tank (21-ST-806) stores water that is pumped from amine tank containments in the amine process unit; the contents are majority water (~99% or more) with possible trace amounts of amine (the VOL) that could be present. The vapor pressure will be close to that of water ~2.3 kPa. Since the amine storage tank capacity ≥75 m³ but <151 m³ and stores a liquid with a maximum true vapor pressure less than 15.0 kPa, it would also not be a subject to the 40 C.F.R. 60, Subpart Kb per 40 C.F.R. §60.110b(b).

- c. **40 CFR 60 Subpart KKK—Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants:** 40 CFR 60 Subpart KKK applies to onshore natural gas

processing plants that commenced construction after January 20, 1984 and on or before August 23, 2011. The Oak Grove Natural Gas Processing Facility was constructed after August 23, 2011, therefore this subpart does not apply.

- d. **40 CFR 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution:** The storage tanks located at the Oak Grove Natural Gas Processing Facility are exempt from Subpart OOOO as each of these tanks have potential VOC emissions less than 6 tons/year.

- e. **40 CFR 64—Compliance Assurance Monitoring:** Since there are no pollutant-specific emission units at this facility with pre-control emissions greater than 100 TPY for regulated air pollutants and 10 / 25 TPY for individual / total HAPs that use a control device to achieve compliance with an emission limitation or standard, CAM does not apply.

4.0 Heaters [emission point ID(s): 1E-7E]

4.1. Limitations and Standards

4.1.1. **Maximum Design Heat Input.** The maximum design heat input (MDHI) for Heaters (1E-7E) shall not exceed the values as given under Table 1.1: Emissions Units.

[45CSR13, R13-3070, 5.1.1.]

4.1.2. Maximum emissions from the 26.26 MMBTU/hr TXP1 Hot Oil Heater (1E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	2.57	11.28
Carbon Monoxide	2.16	9.47
Volatile Organic Compounds	0.15	0.64

[45CSR13, R13-3070, 5.1.2.]

4.1.3. The hourly quantity of natural gas that shall be consumed in the 26.26 MMBTU/hr Hot Oil Heater (1E) shall not exceed 25,748 scf/hr.

[45CSR13, R13-3070, 5.1.3.]

4.1.4. The annual quantity of natural gas that shall be consumed in the 26.26 MMBTU/hr Hot Oil Heater (1E) shall not exceed 226 MMscf/yr.

[45CSR13, R13-3070, 5.1.4.]

4.1.5. Maximum emissions from the 9.40 MMBTU/hr TXP1 Regen Gas Heater (2E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	0.92	4.04
Carbon Monoxide	0.77	3.39
Volatile Organic Compounds	0.05	0.23

[45CSR13, R13-3070, 5.1.5.]

4.1.6. The hourly quantity of natural gas that shall be consumed in the 9.40 MMBTU/hr TXP1 Regen Gas Heater (2E) shall not exceed 9,216 scf/hr.

[45CSR13, R13-3070, 5.1.6.]

4.1.7. The annual quantity of natural gas that shall be consumed in the 9.40 MMBTU/hr TXP1 Regen Gas Heater (2E) shall not exceed 81 MMscf/yr.

[45CSR13, R13-3070, 5.1.7.]

- 4.1.8. Maximum emissions from the 20.30 MMBTU/hr TXP2 Regen Gas Heater (3E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	0.73	3.20
Carbon Monoxide	0.81	3.56
Volatile Organic Compounds	0.39	1.69

[45CSR13, R13-3070, 5.1.9.]

- 4.1.9. The hourly quantity of natural gas that shall be consumed in the 20.30 MMBTU/hr TXP2 Regen Gas Heater (3E) shall not exceed 19,902 scf/hr.

[45CSR13, R13-3070, 5.1.10.]

- 4.1.10. The annual quantity of natural gas that shall be consumed in the 20.30 MMBTU/hr TXP2 Regen Gas Heater (3E) shall not exceed 175 MMscf/yr.

[45CSR13, R13-3070, 5.1.11.]

- 4.1.11. Maximum emissions from the 20.30 MMBTU/hr TXP3 Regen Gas Heater (4E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	0.73	3.20
Carbon Monoxide	0.81	3.56
Volatile Organic Compounds	0.39	1.69

[45CSR13, R13-3070, 5.1.13.]

- 4.1.12. The hourly quantity of natural gas that shall be consumed in the 20.30 MMBTU/hr TXP3 Regen Gas Heater (4E) shall not exceed 19,902 scf/hr.

[45CSR13, R13-3070, 5.1.14.]

- 4.1.13. The annual quantity of natural gas that shall be consumed in the 20.30 MMBTU/hr TXP3 Regen Gas Heater (4E) shall not exceed 175 MMscf/yr.

[45CSR13, R13-3070, 5.1.15.]

- 4.1.14. Maximum emissions from each of the 68.33 MMBTU/hr De-Ethanizer Hot Oil Heaters (5E, 6E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	2.46	10.77
Carbon Monoxide	2.53	11.07
Volatile Organic Compounds	0.38	1.67

[45CSR13, R13-3070, 5.1.17.]

- 4.1.15. The hourly quantity of natural gas that shall be consumed in each of the 68.33 MMBTU/hr De-Ethanizer Hot Oil Heaters (5E, 6E) shall not exceed 67,000 scf/hr.

[45CSR13, R13-3070, 5.1.18.]

- 4.1.16. The annual quantity of natural gas that shall be consumed in each of the 68.33 MMBTU/hr De-Ethanizer Hot Oil Heaters (5E, 6E) shall not exceed 587 MMscf/yr.

[45CSR13, R13-3070, 5.1.19.]

- 4.1.17. Maximum emissions from the 10.44 MMBTU/hr De-Ethanizer Regen Gas Heater (7E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	1.02	4.48
Carbon Monoxide	0.86	3.77
Volatile Organic Compounds	0.06	0.25

[45CSR13, R13-3070, 5.1.20.]

- 4.1.18. The hourly quantity of natural gas that shall be consumed in the 10.44 MMBTU/hr De-Ethanizer Regen Gas Heater (7E) shall not exceed 10,237 standard cubic feet per hour.

[45CSR13, R13-3070, 5.1.21.]

- 4.1.19. The annual quantity of natural gas that shall be consumed in the 10.44 MMBTU/hr De-Ethanizer Regen Gas Heater (7E) shall not exceed 89.68 x 10⁶ standard cubic feet per year.

[45CSR13, R13-3070, 5.1.22.]

- 4.1.20. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[45CSR§2-3.1.; 45CSR13, R13-3070, 5.1.24.]

- 4.1.21. The permitted facility shall comply with all applicable provisions of 40 CFR 60 Subpart Dc, provided that compliance with any more stringent limitation set forth under this permit shall also be demonstrated. Recordkeeping and reporting requirements shall be conducted in accordance with 40 CFR §60.48c. These reports shall be submitted in accordance with the time lines and in the order set forth in 40 CFR §60.48c and submitted to the addresses listed in Section 3.5.3. [45CSR13, R13-3070, 5.1.25.; 45CSR16]

- 4.1.22. No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined as follows:

For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million B.T.U.'s per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units.

[45CSR§2-4.1.b]

- 4.1.23. No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the amount determined as follows:

For Type 'b' and Type 'c' fuel burning units, the product of 3.1 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour.

[45CSR§10-3.1.e]

4.2. Monitoring Requirements

- 4.2.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section 4.1.20. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

[45CSR13, R13-3070, 5.2.1.]

4.3. Testing Requirements

- 4.3.1. Compliance with the visible emission requirements of section 4.1.20 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of section 4.1.20. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.

[45CSR§2-3.2.; 45CSR13, R13-3070, 5.3.1.]

- 4.3.2. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of section 4 (45CSR2 PM limit in condition 4.1.22.). Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to this rule or other equivalent EPA approved method approved by the Director. The Director, or his duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports located in such manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.

The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in 45CSR§2-4.1. (45CSR2 PM limit in condition 4.1.22.).

[45CSR§2-8.1.b. and 8.1.c.]

4.4. Recordkeeping Requirements

4.4.1. To demonstrate compliance with sections 4.1.1-4.1.19, the permittee shall maintain a monthly record of the amount of natural gas consumed and the hours of operation of each of the heaters (1E-7E). Compliance with the maximum throughput limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

[45CSR§2-8.3.c; 45CSR§2A-7.1.a.1; 45CSR13, R13-3070, 5.4.1.]

4.4.2. Except as provided under conditions 4.4.3 and 4.4.4, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

[40CFR§60.48c(g)(1); 45CSR16; 45CSR13, R13-3070, 5.4.2.]

4.4.3. As an alternative to meeting the requirements of condition 4.4.2, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in 40 CFR §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

[40CFR§60.48c(g)(2); 45CSR16; 45CSR13, R13-3070, 5.4.3.]

4.4.4. As an alternative to meeting the requirements of condition 4.4.2, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to 40 C.F.R. 60, Subpart Dc) at that property are natural gas, wood, distillate oil meeting the most current requirements in 40 CFR §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

[40CFR§60.48c(g)(3); 45CSR16; 45CSR13, R13-3070, 5.4.4.]

4.5. Reporting Requirements

4.5.1. The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by 40 CFR §60.7. This notification shall include:

a. The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

b. If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR §60.42c, or 40 CFR §60.43c.

c. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

- d. Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of 40 CFR §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

[40CFR§60.48c(a); 45CSR16; 45CSR13, R13-3070, 5.5.1.]

- 4.5.2. The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[40CFR§60.48c(j); 45CSR16; 45CSR13, R13-3070, 5.5.2.]

4.6. Compliance Plan

- 4.6.1. N/A

5.0 Flare Control Device [emission point ID(s): 8E]

5.1. Limitations and Standards

5.1.1. In accordance with information in permit application R13-3070DC, the permittee shall install and operate a Process Flare (FL-1) designed to achieve, at a minimum, a 99.0% destruction and removal efficiency (DRE) of VOCs and organic HAPs from the sources identified under Control Devices Table 1.1. The maximum aggregate amount of waste gases sent to the Process Flare from these sources shall not exceed 630.19 MMscf/yr based on a rolling 12 month total.

[45CSR13, R13-3070, 6.1.1.]

5.1.2. Maximum emissions from the Zeeco flare (8E) shall not exceed the following limits:

a. The maximum aggregate emissions generated at the Process Flare (8E) from the combustion of waste gases and the pilot light shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	638.12	73.27
Carbon Monoxide	1,273.91	146.28

b. The maximum emissions of VOCs and HAPs at the Process Flare (representing un-combusted pass-through organic vapors that are generated at one of the sources identified under 5.1.1.) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
VOCs	111.12 177.30	12.60 20.36
Benzene	2.78 4.49	0.32 0.52
Ethylbenzene	2.78 6.09	0.32 0.70
n-Hexane	3.06 5.48	0.32 0.63
Toluene	2.78 5.30	0.32 0.61
2,2,4-TMP	2.78 6.55	0.32 0.75
Xylenes	2.78 6.11	0.32 0.70
Total HAPs	22.29 34.38	2.53 3.95

[45CSR13, R13-3070, 6.1.2.]

5.1.3. The installed Process Flare (FL-1) shall be a Zeeco Model Number AFTA-24/80, shall have a maximum waste-gas capacity of 208,000 lb/hr, shall have an MDHI of 4,624 mmBtu/hr, and shall be designed and operated in accordance with the following:

a. Flare shall be air-assisted.

- b. Flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Note: Compliance with the no visible emissions requirement in 5.1.3.b ensures compliance with the applicable opacity and visible emissions requirements in 45CSR§§6-4.3, 4.4, and 4.5.

- c. Flare shall be operated, with a flame present at all times whenever emissions may be vented to it, except during SSM (Startup, Shutdown, Malfunctions) events.
- d. A flare shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

H_T =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740 \times 10^{-7} \left(\frac{1}{ppmv} \right) \left(\frac{g\text{-mole}}{scm} \right) \left(\frac{MJ}{kcal} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i =Concentration of sample component i in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).

H_i =Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 if published values are not available or cannot be calculated.

n=Number of sample components.

- e. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max} . The maximum permitted velocity, V_{max} , for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:

V_{max} =Maximum permitted velocity, m/sec.

8.71=Constant.

0.708=Constant.

H_T =The net heating value as determined in 5.1.3.d.

[45CSR§§6-4.3, 4.4, and 4.5; 45CSR13, R13-3070, 6.1.3.]

- 5.1.4. The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 5.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 5.4.2. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 5.1.3 by complying with the compliance assessment testing requirements of section 5.3.2.

[45CSR13, R13-3070, 6.1.4.]

- 5.1.5. No person shall cause or allow particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions.

	Incinerator Capacity	Factor F
A.	Less than 15,000 lbs/hr	5.43
B.	15,000 lbs/hr or greater	2.72

[45CSR§6-4.1]

- 5.1.6. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

[45CSR§6-4.6]

5.2. Monitoring Requirements

- 5.2.1. In order to demonstrate compliance with the requirements of 5.1.3.c, the permittee shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.

[45CSR13, R13-3070, 6.2.1.]

- 5.2.2. In order to determine compliance with 5.1.1., the permittee shall monitor and record the monthly and rolling twelve (12) month total aggregate waste gases, pilot gas, and purge gas sent to the flare (in MMscf) from the sources identified under Control Devices Table 1.1.

[45CSR13, R13-3070, 6.2.2.]

5.3. Testing Requirements

- 5.3.1. In order to demonstrate compliance with the flare opacity requirements of 5.1.3.b the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of R13-3070 permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions.

At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.

In order to continue to demonstrate compliance with the flare opacity requirements of 5.1.3.b the permittee shall conduct visible emission checks at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at flare emission point for a sufficient time interval, but no less than one minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If during these checks or at any other time visible emissions are observed, compliance shall be determined by conducting opacity tests in accordance with 40 CFR 60, Appendix A, Method 22. This test shall be conducted for at least 2 hours and shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period.

[45CSR13, R13-3070, 6.3.1; 45CSR§30-5.1.c]

- 5.3.2. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 5.1.4. This compliance assessment testing shall be conducted in accordance with appropriate test methods or other equivalent testing as approved in writing by the Director.

[45CSR13, R13-3070, 6.3.2.]

- 5.3.3. At such reasonable times as the Secretary may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading (condition 5.1.5.), by using 40 CFR Part 60, Appendix A, Method 5 or other equivalent U.S. EPA approved method approved by the Secretary, in exhaust gases. Such tests shall be conducted in such manner as the Secretary may specify and be filed on forms and in a manner acceptable to the Secretary. The Secretary may, at the Secretary's option, witness or conduct such stack tests. Should the Secretary exercise his or her option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.

The Secretary may conduct such other tests as the Secretary may deem necessary to evaluate air pollution emissions other than those noted above.

[45CSR§§6-7.1. and 7.2.]

5.4. Recordkeeping Requirements

- 5.4.1. For the purpose of demonstrating compliance with section 5.1.3.c and 5.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.

[45CSR13, R13-3070, 6.4.1.]

- 5.4.2. For the purpose of demonstrating compliance with section 5.1.3 and 5.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.

[45CSR13, R13-3070, 6.4.2.]

- 5.4.3. For the purpose of demonstrating compliance with the requirements set forth in sections 5.1.3, the permittee shall maintain records of testing conducted in accordance with 5.3.2.
[45CSR13, R13-3070, 6.4.3.]
- 5.4.4. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of 5.2 and testing requirements of 5.3.
[45CSR13, R13-3070, 6.4.4.]
- 5.4.5. For the purpose of demonstrating compliance with section 5.1.3.b, the permittee shall maintain records of the visible emission opacity tests conducted per Section 5.3.1.
[45CSR13, R13-3070, 6.4.5.]
- 5.4.6. All records required under Section 5.3 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
[45CSR13, R13-3070, 6.4.6.]

5.5. Reporting Requirements

- 5.5.1. If permittee is required by the Director to demonstrate compliance with section 5.3.2, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
[45CSR13, R13-3070, 6.5.1.]
- 5.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13, R13-3070, 6.5.2.]
- 5.5.3. Any deviation(s) from the flare design and operation criteria in Section 5.1.3 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.
[45CSR13, R13-3070, 6.5.3.]

5.6. Compliance Plan

- 5.6.1. N/A

6.0 Standby Generator [emission point ID(s): 9E]

6.1 Limitations and Standards

6.1.1. To demonstrate compliance with Section 6.1.2, the quantity of propane that shall be consumed in the 224 hp liquid propane gas (LPG)-fired reciprocating engine, an Olympian Model G150LG2 (9E), shall not exceed 878 cubic feet per hour and 440,000 cubic feet per year.
[45CSR13, R13-3070, 7.1.1.]

6.1.2. Maximum emissions from the 224 hp LPG-fired reciprocating engine, an Olympian Model G150LG2 (9E), shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxide	0.99	0.25
Carbon Monoxide	1.98	0.49
VOCs	0.54	0.13
Formaldehyde	0.04	0.01

[45CSR13, R13-3070, 7.1.2.]

6.1.3. **Maximum Yearly Operation Limitation.** The maximum non-emergency yearly hours of operation for the 224 hp LPG-fired reciprocating engine, an Olympian Model G150LG2 (9E), shall not exceed 500 hours per year (use of the engine during emergency situations as defined under 2.17 does not count toward this limit). Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.

[45CSR13, R13-3070, 7.1.3.]

6.1.4. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in 40 CFR §60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in 40 CFR §60.4231(c) for their stationary SI ICE.

[40CFR§60.4233(c); 45CSR16; 45CSR13, R13-3070, 8.1.1.]

6.1.5. Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in 40 CFR §60.4230(a)(2), or manufactured on or after the applicable date in 40 CFR §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP that are rich burn engines that use LPG and that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to

1,000 cc that are rich burn engines that use LPG to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.
[40CFR§60.4231(c); 45CSR16; 45CSR13, R13-3070, 8.1.2.]

6.1.6. The permittee must operate and maintain stationary SI ICE that achieve the emission standards as required in 40 CFR §60.4233 over the entire life of the engine.
[45CSR16; 40CFR§60.4234]

6.1.7. If the permittee owns or operates a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in 40 CFR §§60.4233(a) through (c), the permittee must comply by purchasing an engine certified to the emission standards in 40 CFR §§60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, the permittee must meet the following requirements:

If the permittee operates and maintains the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if the permittee is an owner or operator. The permittee must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply. If the permittee adjusts engine settings according to and consistent with the manufacturer's instructions, the permittee's stationary SI internal combustion engine will not be considered out of compliance.
[45CSR16; 40CFR§§60.4243(a) and (a)(1)]

6.1.8. If the permittee owns or operates an emergency stationary ICE, the permittee must operate the emergency stationary ICE according to the following requirements. In order for the engine to be considered an emergency stationary ICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in the following paragraphs, is prohibited. If the permittee does not operate the engine according to the following requirements, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- a. There is no time limit on the use of emergency stationary ICE in emergency situations.
- b. The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (b)(1) (40 CFR §60.4243(d)(2)(i)) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (c) of this section (40 CFR §60.4243(d)(3)) counts as part of the 100 hours per calendar year allowed by this paragraph (b) (40 CFR §60.4243(d)(2)).
 1. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (b) of this section (40 CFR §60.4243(d)(2)). Except as provided in paragraph (c)(1) of this section (40 CFR §60.4243(d)(3)(i)), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 1. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - i. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - ii. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - iii. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - iv. The power is provided only to the facility itself or to support the local transmission and distribution system.
 - v. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[45CSR16; 40CFR§60.4243(d)]

- 6.1.9. The permittee must install a non-resettable hour meter.
[45CSR16; 40CFR§60.4237(b)]

6.2. Monitoring Requirements

- 6.2.1. N/A

6.3. Testing Requirements

- 6.3.1. N/A

6.4. Recordkeeping Requirements

- 6.4.1. To demonstrate compliance with sections 6.1.1 - 6.1.3, the permittee shall maintain records of the hours of operation of the engine (9E). Said records shall be maintained on site or in a readily accessible off-site

location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

[45CSR13, R13-3070, 7.2.1.]

6.4.2. Owners and operators of all stationary SI ICE must keep records of the following information:

- a. All notifications submitted to comply with this subpart and all documentation supporting any notification.
- b. Maintenance conducted on the engine.
- c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- d. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR §60.4243(a)(2), documentation that the engine meets the emission standards.

[45CSR16; 40CFR§60.4245(a)]

6.4.3. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

[45CSR16; 40CFR§60.4245(b)]

6.5. Reporting Requirements

6.5.1. If the permittee owns or operates an emergency stationary SI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR §60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR §60.4243(d)(3)(i), you must submit an annual report according to the following requirements:

- a. The report must contain the following information:
 1. Company name and address where the engine is located.
 2. Date of the report and beginning and ending dates of the reporting period.
 3. Engine site rating and model year.
 4. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

5. Hours operated for the purposes specified in 40 CFR §§60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR §§60.4243(d)(2)(ii) and (iii).
 6. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR §§60.4243(d)(2)(ii) and (iii).
 7. Hours spent for operation for the purposes specified in 40 CFR §60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR §60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
- b. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
 - c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR §60.4.

[45CSR16; 40CFR§60.4245(e)]

6.6. Compliance Plan

- 6.6.1. N/A

7.0 Gas Processing Plant [emission point ID(s): 15E and 17E]

7.1. Limitations and Standards

7.1.1. **Maximum Throughput Limitation.** The total maximum wet natural gas throughput through the Gas Processing Plant shall not exceed ~~755~~ ~~660~~ mmscf/day.
[45CSR13, R13-3070, 9.1.1.]

7.1.2. You must comply with the standards in paragraphs (a) through (d) of this section for each reciprocating compressor affected facility.

a. You must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of 40 CFR §60.5385 or you must comply with paragraph (a)(3) of 40 CFR §60.5385.

1. Before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

2. Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.

3. Collect the emissions from the rod packing using a rod packing emissions collection system which operates under negative pressure and route the rod packing emissions to a process through a closed vent system that meets the requirements of 40 CFR §60.5411(a).

b. You must demonstrate initial compliance with standards that apply to reciprocating compressor affected facilities as required by 40 CFR §60.5410.

c. You must demonstrate continuous compliance with standards that apply to reciprocating compressor affected facilities as required by 40 CFR §60.5415.

d. You must perform the required notification, recordkeeping, and reporting as required by 40 CFR §60.5420.

[40CFR§60.5385; 45CSR16; 45CSR13, R13-3070, 9.1.2., Reciprocating Compressors (17E)]

7.1.3. What equipment leak standards apply to affected facilities at an onshore natural gas processing plant?

This section applies to the group of all equipment, except compressors, within a process unit.

a. You must comply with the requirements of 40 CFR §§60.482-1a(a), (b), and (d), 60.482-2a, and 60.482-4a through 60.482-11a, except as provided in 40 CFR §60.5401.

b. You may elect to comply with the requirements of 40 CFR §§60.483-1a and 60.483-2a, as an alternative.

c. You may apply to the Administrator for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in 40 CFR 60 Subpart OOOO according to the requirements of 40 CFR §60.5402.

- d. You must comply with the provisions of 40 CFR §60.485a except as provided in paragraph (f) of this section (40 CFR §60.5400).
- e. You must comply with the provisions of 40 CFR §§60.486a and 60.487a except as provided in 40 CFR §§60.5401, 60.5421, and 60.5422.
- f. You must use the following provision instead of 40 CFR §60.485a(d)(1): Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM E169-93, E168-92, or E260-96 (incorporated by reference as specified in 40 CFR §60.17) must be used.

[40CFR§60.5400; 45CSR16; 45CSR13, R13-3070, 9.1.3., 15E]

- 7.1.4. What are the exceptions to the equipment leak standards for affected facilities at onshore natural gas processing plants?
- a. You may comply with the following exceptions to the provisions of 40 CFR §§60.5400(a) and (b).
 - b. 1. Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in 40 CFR § 60.485a(b) except as provided in 40 CFR §60.5400(c) and in paragraph (b)(4) of 40 CFR §60.5401, and 40 CFR §60.482-4a(a) through (c) of 40 CFR part 60 subpart VVa.
 - 2. If an instrument reading of 500 ppm or greater is measured, a leak is detected.
 - 3. i. When a leak is detected, it must be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in 40 CFR §60.482-9a.
 - ii. A first attempt at repair must be made no later than 5 calendar days after each leak is detected.
 - 4. i. Any pressure relief device that is located in a nonfractionating plant that is monitored only by non-plant personnel may be monitored after a pressure release the next time the monitoring personnel are on-site, instead of within 5 days as specified in paragraph (b)(1) of 40 CFR §60.5401 and § 60.482-4a(b)(1) of 40 CFR part 60 subpart VVa.
 - ii. No pressure relief device described in paragraph (b)(4)(i) of 40 CFR §60.5401 must be allowed to operate for more than 30 days after a pressure release without monitoring.
 - c. Sampling connection systems are exempt from the requirements of 40 CFR §60.482-5a.
 - d. Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,200 standard cubic meters per day (scmd) (10 million standard cubic feet per day) or more of field gas are exempt from the routine monitoring requirements of 40 CFR §§60.482-2a(a)(1), 60.482-7a(a), 60.482-11a(a), and paragraph (b)(1) of 40 CFR §60.5401.
 - e. Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service within a process unit that is located in the Alaskan North Slope are exempt from the

routine monitoring requirements of 40 CFR §§60.482-2a(a)(1), 60.482-7a(a), 60.482-11a(a), and paragraph (b)(1) of 40 CFR §60.5401.

- f. An owner or operator may use the following provisions instead of 40 CFR §60.485a(e):
 - 1. Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 150 °C (302 °F) as determined by ASTM Method D86-96 (incorporated by reference as specified in 40 CFR § 60.17).
 - 2. Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150 °C (302 °F) as determined by ASTM Method D86-96 (incorporated by reference as specified in 40 CFR § 60.17).
- g. An owner or operator may use the following provisions instead of 40 CFR §60.485a(b)(2): A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in 40 CFR §60.486a(e)(8). Divide these readings by the initial calibration values for each scale and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

[40CFR§60.5401; 45CSR16; 45CSR13, R13-3070, 9.1.4.; 15E]

- 7.1.5. What are the alternative emission limitations for equipment leaks from onshore natural gas processing plants?
 - a. If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, the Administrator will publish, in the Federal Register, a notice permitting the use of that alternative means for the purpose of compliance with that standard. The notice may condition permission on requirements related to the operation and maintenance of the alternative means.
 - b. Any notice under paragraph (a) of this section must be published only after notice and an opportunity for a public hearing.
 - c. The Administrator will consider applications under this section from either owners or operators of affected facilities, or manufacturers of control equipment.
 - d. The Administrator will treat applications under this section according to the following criteria, except in cases where the Administrator concludes that other criteria are appropriate:
 - 1. The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in paragraph (a) of this section.
 - 2. If the applicant is an owner or operator of an affected facility, the applicant must commit in writing to operate and maintain the alternative means so as to achieve a reduction in VOC emissions at least

equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.

[40CFR§60.5402; 45CSR16; 45CSR13, R13-3070, 9.1.5.; 15E]

- 7.1.6. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40CFR§60.5370(b); 45CSR16; 15E]

7.2. Monitoring Requirements

- 7.2.1. You must determine initial compliance with the standards for each affected facility using the requirements in paragraphs (c) and (f) of 40 CFR §60.5410. The initial compliance period begins on October 15, 2012 or upon initial startup, whichever is later, and ends no later than one year after the initial startup date for your affected facility or no later than one year after October 15, 2012. The initial compliance period may be less than one full year.

- a. To achieve initial compliance with the standards for each reciprocating compressor affected facility you must comply with paragraphs (c)(1) through (4) of 40 CFR §60.5410.
1. During the initial compliance period, you must continuously monitor the number of hours of operation or track the number of months since the last rod packing replacement.
 2. You must submit the notifications required in 40 CFR §§60.7(a)(1), (3), and (4).
 3. You must submit the initial annual report for your reciprocating compressor as required in 40 CFR §60.5420(b).
 4. You must maintain the records as specified in 40 CFR §60.5420(c)(3) for each reciprocating compressor affected facility.
- b. For affected facilities at onshore natural gas processing plants, initial compliance with the VOC requirements is demonstrated if you are in compliance with the requirements of 40 CFR §60.5400.

[40CFR§§60.5410(c) and (f); 45CSR16; 45CSR13, R13-3070, 9.2.1.; Reciprocating Compressors (17E), 15E]

- 7.2.2. For each reciprocating compressor affected facility complying with 40 CFR §§60.5385(a)(1) or (2), you must demonstrate continuous compliance according to paragraphs (a) through (c) of this section (40 CFR §§60.5415(c)(1)-(3)). For each reciprocating compressor affected facility complying with 40 CFR §§60.5385(a)(3), you must demonstrate continuous compliance according to paragraph (d) of this section (40 CFR §§60.5415(c)(4)).

- a. You must continuously monitor the number of hours of operation for each reciprocating compressor affected facility or track the number of months since initial startup, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

- b. You must submit the annual report as required in 40 CFR §60.5420(b) and maintain records as required in 40 CFR §60.5420(c)(3).
- c. You must replace the reciprocating compressor rod packing before the total number of hours of operation reaches 26,000 hours or the number of months since the most recent rod packing replacement reaches 36 months.
- d. You must operate the rod packing emissions collection system under negative pressure and continuously comply with the closed vent requirements in 40 CFR §60.5411(a).

[40CFR§60.5415(c)(1)-(4); 45CSR16; 45CSR13, R13-3070, 9.3.1.; 17E]

- 7.2.3. For affected facilities at onshore natural gas processing plants, continuous compliance with VOC requirements is demonstrated if you are in compliance with the requirements of 40 CFR §60.5400 (condition 7.1.3).

[40CFR§60.5415(f); 45CSR16; 45CSR13, R13-3070, 9.3.2.; 15E]

7.3. Testing Requirements

- 7.3.1. N/A

7.4. Recordkeeping Requirements

- 7.4.1. **Recordkeeping requirements.** You must maintain the records identified as specified in 40 CFR §60.7(f) and in 40 CFR §60.5420(c)(3). All records must be maintained for at least 5 years.

For each reciprocating compressor affected facility, you must maintain the records in paragraphs (a) through (c) of this section (40 CFR §60.5420(c)(3)).

- a. Records of the cumulative number of hours of operation or number of months since initial startup or October 15, 2012, or the previous replacement of the reciprocating compressor rod packing, whichever is later.
- b. Records of the date and time of each reciprocating rod packing compressor replacement, or date of installation of a rod packing emissions collection system and closed vent system as specified in 40 CFR §60.5385(a)(3).
- c. Records of deviations in cases where the reciprocating compressor was not operated in compliance with the requirements specified in 40 CFR §60.5385.

[40CFR§60.5420(c)(3); 45CSR16; 45CSR13, R13-3070, 9.4.3.]

- 7.4.2. What are my additional recordkeeping requirements for my affected facility subject to VOC requirements for onshore natural gas processing plants?

- a. You must comply with the requirements of paragraph (b) of 40 CFR §60.5421 in addition to the requirements of 40 CFR §60.486a.
- b. The following recordkeeping requirements apply to pressure relief devices subject to the requirements of 40 CFR §60.5401(b)(1).

1. When each leak is detected as specified in 40 CFR §60.5401(b)(2), a weatherproof and readily visible identification, marked with the equipment identification number, must be attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.
2. When each leak is detected as specified in 40 CFR §60.5401(b)(2), the following information must be recorded in a log and shall be kept for 2 years in a readily accessible location:
 - i. The instrument and operator identification numbers and the equipment identification number.
 - ii. The date the leak was detected and the dates of each attempt to repair the leak.
 - iii. Repair methods applied in each attempt to repair the leak.
 - iv. “Above 500 ppm” if the maximum instrument reading measured by the methods specified in paragraph (a) of this section after each repair attempt is 500 ppm or greater.
 - v. “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - vi. The signature of the owner or operator (or designate) whose decision it was that repair could not be ~~a~~effected without a process shutdown.
 - vii. The expected date of successful repair of the leak if a leak is not repaired within 15 days.
 - viii. Dates of process unit shutdowns that occur while the equipment is unrepaired.
 - ix. The date of successful repair of the leak.
 - x. A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR §60.482-4a(a). The designation of equipment subject to the provisions of 40 CFR §60.482-4a(a) must be signed by the owner or operator.

[40CFR§60.5421; 45CSR16; 45CSR13, R13-3070, 9.4.4.; 15E]

- 7.4.3. To demonstrate compliance with section 7.1.1 the permittee shall maintain records of the amount of natural gas processed in the Gas Processing Plant. Said records required shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
[45CSR13, R13-3070, 9.5.1.]

7.5. Reporting Requirements

- 7.5.1. You must submit the notifications required in 40 CFR §§60.7(a)(1) and (4), and according to paragraphs (a) and (b) of this section (40 CFR §60.5420(a)), if you own or operate one or more of the affected facilities specified in 40 CFR §60.5365 that was constructed, modified, or reconstructed during the reporting period.
- a. If you own or operate a gas well, pneumatic controller or storage vessel affected facility you are not required to submit the notifications required in 40 CFR §60.7(a)(1), (3), and (4).

- b. i. If you own or operate a gas well affected facility, you must submit a notification to the Administrator no later than 2 days prior to the commencement of each well completion operation listing the anticipated date of the well completion operation. The notification shall include contact information for the owner or operator; the API well number, the latitude and longitude coordinates for each well in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983; and the planned date of the beginning of flowback. You may submit the notification in writing or in electronic format.
- ii. If you are subject to state regulations that require advance notification of well completions and you have met those notification requirements, then you are considered to have met the advance notification requirements of paragraph (b)(i) of this section (40 CFR §60.5420(a)(2)(i)).

[40CFR§60.5420(a); 45CSR13, R13-3070, 9.4.1.]

7.5.2. **Reporting requirements.** You must submit annual reports containing the information specified in paragraphs (a) and (b) of this section (40 CFR §§60.5420(b)(1) and (b)(4)) to the Administrator and performance test reports as specified in paragraph (c) of this section (40 CFR §§60.5420(b)(7)). The initial annual report is due 30 days after the end of the initial compliance period as determined according to 40 CFR §60.5410. Subsequent annual reports are due on the same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in 40 CFR §§60.5420(b)(1) through (6). Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

- a. The general information specified in paragraphs (a)(i) through (iv) of this section (40 CFR §§60.5420(b)(1)).
 - i. The company name and address of the affected facility.
 - ii. An identification of each affected facility being included in the annual report.
 - iii. Beginning and ending dates of the reporting period.
 - iv. A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- b. For each reciprocating compressor affected facility, the information specified in paragraphs (b)(i) and (ii) of this section (40 CFR §§60.5420(b)(4)).
 - i. The cumulative number of hours of operation or the number of months since initial startup, October 15, 2012, or since the previous reciprocating compressor rod packing replacement, whichever is later.
 - ii. Records of deviations specified in paragraph 40 CFR §60.5420(c)(3)(iii) that occurred during the reporting period.
- c. i. Within 60 days after the date of completing each performance test (see 40 CFR §60.8) as required by 40 CFR 60 Subpart OOOO, except testing conducted by the manufacturer as specified in 40 CFR §60.5413(d), you must submit the results of the performance tests required by 40 CFR 60 Subpart OOOO to the EPA as follows. You must use the latest version of the EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>) existing at the time of the performance test to generate a submission package file, which documents the performance test. You must then

submit the file generated by the ERT through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed by logging in to the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). Only data collected using test methods supported by the ERT as listed on the ERT Web site are subject to this requirement for submitting reports electronically. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR §60.4.

- ii. All reports, except as specified in paragraph (b)(8) of 40 CFR §§60.5420, required by 40 CFR 60 Subpart OOOO not subject to the requirements in paragraph (a)(2)(i) of 40 CFR §60.5420 must be sent to the Administrator at the appropriate address listed in 40 CFR §60.4. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).

[40CFR§§60.5420(b)(1), (b)(4), and (b)(7); 45CSR16; 45CSR13, R13-3070, 9.4.2.]

- 7.5.3. What are my additional reporting requirements for my affected facility subject to VOC requirements for onshore natural gas processing plants?
 - a. You must comply with the requirements of paragraphs (b) and (c) of 40 CFR §60.5422 in addition to the requirements of 40 CFR §§60.487a(a), (b), (c)(2)(i) through (iv), and (c)(2)(vii) through (viii).
 - b. An owner or operator must include the following information in the initial semiannual report in addition to the information required in 40 CFR §§60.487a(b)(1) through (4): Number of pressure relief devices subject to the requirements of 40 CFR §60.5401(b) except for those pressure relief devices designated for no detectable emissions under the provisions of 40 CFR §60.482-4a(a) and those pressure relief devices complying with 40 CFR §60.482-4a(c).
 - c. An owner or operator must include the following information in all semiannual reports in addition to the information required in 40 CFR §§60.487a(c)(2)(i) through (vi):
 2. Number of pressure relief devices for which leaks were detected as required in 40 CFR §60.5401(b)(2); and
 3. Number of pressure relief devices for which leaks were not repaired as required in 40 CFR §60.5401(b)(3).

[40CFR§60.5422; 45CSR16; 45CSR13, R13-3070, 9.4.5.; 15E]

7.6. Compliance Plan

- 7.6.1. N/A

8.0 Amine Process Vent [emission point ID(s): 16E]

8.1 Limitations and Standards

8.1.1. **Maximum Throughput Limitation.** The maximum ethane feedstock to the amine system shall not exceed 44,000 barrels/day.
[45CSR13, R13-3070, 10.1.1.]

8.1.2. The amine system (16E) shall be designed and operated in accordance with the following:

- a. Carbon dioxide will be removed from the ethane product in an amine contacting system.
- b. The total ethane product shall be contacted with an amine solution in the contactor where the carbon dioxide in the ethane product is removed.
- c. The rich amine from the Contactor is regenerated in the Amine Regenerator where heat input is used to drive the carbon dioxide and water overhead and vented to the atmosphere.
- d. The lean amine from the bottom of the Regenerator is recycled back to the Amine Contactor.

[45CSR13, R13-3070, 10.1.2.]

8.1.3. Maximum emissions from the Amine System (16E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	<u>1.92-0.47</u>	<u>8.41-2.07</u>
<u>Hydrogen Sulfide</u>	<u>2.50</u>	<u>10.94</u>

[45CSR13, R13-3070, 10.1.3.]

8.2 Monitoring Requirements

8.2.1. The permittee shall monitor the throughput of ethane feedstock fed to the Amine Process (16E) on a monthly basis.

[45CSR13, R13-3070, 10.2.1.]

8.2.2. The permittee shall conduct, at a minimum of once per twelve-month period, sampling of the inlet gas stream to the Ethane Amine Unit. The results of this test shall be used, with appropriate modeling techniques (such as use of ProMax software), to verify that the emissions of the unit are in compliance with those given under 8.1.3.

[45CSR13, R13-3070, 10.2.2.]

8.3 Testing Requirements

8.3.1. N/A

8.4. Recordkeeping Requirements

- 8.4.1. The permittee shall maintain a record of the ethane product throughput to the Amine Process Vent (16E) to demonstrate compliance with section 8.1.1 of this permit. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
[45CSR13, R13-3070, 10.3.1.]

8.5. Reporting Requirements

- 8.5.1. N/A

8.6. Compliance Plan

- 8.6.1. N/A

9.0 Truck Loadout [emission point ID(s): 14E]

9.1. Limitations and Standards

- 9.1.1. The maximum quantity of slop oil (condensate) that shall be loaded (14E) shall not exceed 24,000,000 gallons per year.
[45CSR13, R13-3070, 11.1.1.]
- 9.1.2. The Truck Loadout (14E) shall be operated in accordance with the plans and specifications filed in Permit Application R13-3070~~DB~~ unless the changes do not meet the definition of a modification in 45CFR13.
[45CSR13, R13-3070, 11.1.2.]

9.2. Monitoring Requirements

- 9.2.1. N/A

9.3. Testing Requirements

- 9.3.1. N/A

9.4. Recordkeeping Requirements

- 9.4.1. For the purpose of demonstrating compliance with section 9.1.1, the permittee shall maintain records of the amount of slop oil (condensate) loaded from the Truck Loadout (14E).
[45CSR13, R13-3070, 11.2.1.]
- 9.4.2. All records required under Section 9.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
[45CSR13, R13-3070, 11.2.2.]

9.5. Reporting Requirements

- 9.5.1. N/A

9.6. Compliance Plan

- 9.6.1. N/A

10.0 Storage Tanks [emission point ID(s): 10E-13E]

10.1. Limitations and Standards

10.1.1. The maximum throughput to the storage tanks (10E-13E) shall not exceed the following:

Emission Point ID#	Emission Unit Description	Maximum Annual Throughput (gallons/year)
10E	Slop Oil (Condensate) Tank (00-ST-826)	500,000+1,000,000
11E	Slop Oil (Condensate) Tank (00-ST-827)	500,000+1,000,000
12E	Slop Oil (Condensate) Tank (00-ST-844)	500,000+1,000,000
13E	Slop Oil (Condensate) Tank (00-ST-845)	500,000+1,000,000

[45CSR13, R13-3070, 12.1.1.]

10.2. Monitoring Requirements

10.2.1. N/A

10.3. Testing Requirements

10.3.1. N/A

10.4. Recordkeeping Requirements

10.4.1. For the purpose of demonstrating compliance with section 10.1.1, the permittee shall maintain records of the maximum tank throughput of the storage tanks (10E-13E).

[45CSR13, R13-3070, 12.2.1.]

10.4.2. All records required under Section 10.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

[45CSR13, R13-3070, 12.2.2.]

10.5. Reporting Requirements

10.5.1. N/A

10.6. Compliance Plan

10.6.1. N/A

11.0 Francis Compressor Station [emission point ID(s): 22E-25E]

11.1. Limitations and Standards

11.1.1. The emission units/sources shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, and shall use (if applicable) the specified control devices.

[45CSR13, R13-3289, 4.1.1.]

11.1.2. Compressor Engine

The compressor engine, identified as CE-01, shall meet the following requirements:

- a. The engine shall be a Caterpillar, G3516B 4SLB 1,380 hp compressor engine and shall only be fired by natural gas;
- b. At all times the engine is in operation, a Catalytic Combustion Corporation Model REM-2415F-D-32HB-HFX4 oxidation catalyst (or one with at least as effective emissions control) shall be used for emissions control. If a different Make/Model of emission control device is used, prior to operation with the new control device, a vendor specification sheet shall be submitted to the DAQ verifying the new post-control emissions of the engine;
- c. The maximum emissions from the engine, as controlled by the oxidation catalyst specified under 11.1.2(b), shall not exceed the limits given in the following table:

Table 11.1.2(c): Compressor Engine Emission Limits

Pollutant	PPH ⁽¹⁾	TPY
CO	0.89	3.89
NO _x	1.52	6.66
PM _{2.5} /PM ₁₀ /PM ⁽²⁾	0.11	0.49
VOC	1.29	5.64
Formaldehyde	0.37	1.60

(1) PPH emissions based on specific model of engine, engine size, and control technology.

(2) Includes condensables.

Compliance with the emission limits for NO_x, CO, and VOC will ensure compliance with the limits in 40 CFR §60.4233(e).

- d. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis;
- e. The emission limitations specified in Table 11.1.2(c) shall apply at all times except during periods of start-up and shut-down provided that the duration of these periods does not exceed 30 minutes per occurrence. The permittee shall operate the engine in a manner consistent with good air pollution control practices for minimizing emissions at all times, including periods of start-up and shut-down. The emissions from start-up and shut-down shall be included in the twelve (12) month rolling total of emissions. The permittee shall comply with all applicable start-up and shut-down requirements in accordance with 40 CFR Part 60, Subpart JJJJ and 40 CFR Part 63, Subpart ZZZZ.

f. **40 CFR 60, Subpart JJJJ**

Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 CFR 60, Subpart JJJJ for their stationary SI ICE.

[45CSR16; 40 CFR §60.4233(e)]

g. **40 CFR 60, Subpart OOOOa**

You must reduce GHG (in the form of a limitation on emissions of methane) and VOC emissions by complying with the standards in paragraphs (a) through (d) of 40 CFR §63.5385a for each reciprocating compressor affected facility.

1. You must replace the reciprocating compressor rod packing according to either paragraph 40 CFR §63.5385a(a)(1) or (2), or you must comply with paragraph 40 CFR §63.5385a(a)(3).

i. On or before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

[45CSR16; 40 CFR §60.5385a(a)(1)]

ii. Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.

[45CSR16; 40 CFR §60.5385a(a)(2)]

iii. Collect the methane and VOC emissions from the rod packing using a rod packing emissions collection system that operates under negative pressure and route the rod packing emissions to a process through a closed vent system that meets the requirements of 40 CFR §60.5411a(a) and (d). [45CSR16; 40 CFR §60.5385a(a)(3)]

h. **40 CFR 63, Subpart ZZZZ**

An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of 40 CFR §63.6590(c) must meet the requirements of 40 CFR part 63 subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 CFR part 63 subpart ZZZZ.

[45CSR34; 40CFR§63.6590(c)]

1. A new or reconstructed stationary RICE located at an area source;

[45CSR34; 40 CFR §63.6590(c)(1)]

[45CSR13, R13-3289, 4.1.2.]

11.1.3. **Oxidation Catalysts**

Use of oxidation catalysts shall be in accordance with the following:

a. Lean-burn natural gas compressor engine(s) equipped with oxidation catalyst air pollution control devices shall be fitted with a closed-loop automatic air/fuel ratio feedback controller to ensure emissions of regulated pollutants do not exceed the emission limits listed under Table 11.1.2(c) for any engine/oxidation catalyst combination under varying load. The closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to ensure a lean-rich mixture;

b. For natural gas compressor engine(s), the permittee shall monitor the temperature to the inlet of the catalyst and in accordance with manufacturer's specifications; a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs. If the engine shuts off due to high

temperature, the permittee shall also check for thermal deactivation of the catalyst before normal operations are resumed; and

- c. The permittee shall follow a written operation and maintenance plan that provides the periodic and annual maintenance requirements of the oxidation catalyst (this plan may be based on manufacturer's recommendations on operation and maintenance).

[45CSR13, R13-3289, 4.1.3.]

11.1.4. Fugitive Emissions

The permittee shall mitigate the release of fugitive emissions according to the following requirements:

- a. The permittee shall not exceed, at the Francis Compressor Station, the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3289B, unless an increase in components does not result in an emissions increase in excess of the amounts listed under 45CSR§13-2.17(a) or (b) that would define the increase as a modification;
- b. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to minimize any fugitive escape of regulated air pollutants (leak). Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for fugitive emissions of regulated air pollutants shall be repaired or replaced as needed;
- c. The number of compressor blowdowns and cold starts at the Francis Compressor Station shall each not exceed 208 events per year. However, in lieu of the event limits given in this section, if the permittee can accurately determine the quantity of gas released during each event, the permittee may show compliance with 11.1.4(c) by limiting total annual gas released to less than 1,930 mscf; and
- d. The permittee shall meet the given control effectiveness on the specified components by instituting an LDAR program meeting the following leak definitions:

Table 11.1.4(d): LDAR Control Effectiveness⁽¹⁾

Component - Service	Control %	Leak Definition
Valves - Gas	92	500 ppm _v
Valves - Light Liquid	88	500 ppm _v
Pumps - Light Liquid	69	10,000 ppm _v ⁽²⁾
Connectors - All Services	93	500 ppm _v

⁽¹⁾ As based on Table 5-2 of document EPA-453/R-95-017 - "Protocol for Equipment Leak Emission Estimates."

⁽²⁾ As based on monthly monitoring.

- e. Due to the Francis Compressor Station being located at a onshore natural gas processing plant (Oak Grove Natural Gas Processing Facility), pursuant to 40 CFR §60.5401a(f)(2), the permittee shall meet all the LDAR requirements as given under 40 CFR 60, Subpart OOOOa, Section §60.5400a. If, due to action taken by USEPA or through litigation, Subpart OOOOa becomes no longer applicable to the components listed under Table 11.1.4(d), the components listed under Table 11.1.4(d) will meet the requirements given for those components under 40 CFR 60, Subpart VVa.

[45CSR13, R13-3289, 4.1.4.]

11.1.5. The permittee must operate and maintain stationary SI ICE that achieve the emission standards as required in 40 CFR §60.4233 over the entire life of the engine.
[45CSR16; 40CFR§60.4234]

11.1.6. Table 3 to 40 C.F.R. 60, Subpart JJJJ shows which parts of the General Provisions in 40 CFR §§60.1 through 60.19 apply to this facility.
[45CSR16; 40CFR§60.4246]

11.2. Monitoring Requirements

11.2.1. Oxidation Catalyst

The permittee shall meet the following Monitoring, Compliance Demonstration, Recording and Reporting Requirements for the oxidation catalyst:

- a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of each compressor engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 2. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
 3. Following the catalyst manufacturer emissions related operating and maintenance recommendations, or develop, implement, or follow a site-specific maintenance plan.
- b. To demonstrate compliance with section 11.1.3, the permittee shall maintain records of the maintenance performed on each RICE and/or generator; and
- c. To demonstrate compliance with section 11.1.3(c), the permittee shall maintain a copy of the site specific maintenance plan or manufacturer maintenance plan.

[45CSR13, R13-3289, 4.2.1.]

11.2.2. 40 CFR 60, Subpart JJJJ

The permittee shall comply with all applicable monitoring, compliance demonstration and record-keeping requirements as given under 40 CFR 60, Subpart JJJJ including the following:

If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in 40 CFR §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of 40 CFR §60.4243.

[45CSR16; 40 CFR §60.4243(b)]

- a. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in 40 CFR §60.4233(d) or (e) and according to the requirements specified in 40 CFR §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of 40 CFR §60.4243.

[45CSR16; 40 CFR §60.4243(b)(2)]

1. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.
[45CSR16; 40 CFR §60.4243(b)(2)(ii)]

[45CSR13, R13-3289, 4.2.2.]

- 11.2.3. For the purposes of determining compliance with 11.1.4(c), the permittee shall monitor and record the monthly and rolling twelve month records of the number of compressor blowdowns and cold starts at the facility. The information will further include the duration, estimated volume of gas vented, and reason for event.

[45CSR13, R13-3289, 4.2.3.]

11.3. Testing Requirements

- 11.3.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

[45CSR13, R13-3289, 4.3.1.]

11.3.2. Compressor Engine

The permittee shall, pursuant to the timing and other requirements of 40 CFR 60, Subpart JJJJ, conduct, or have conducted, performance testing on the compressor engine to determine the emission rates of CO, NO_x, and VOCs. The testing shall, in addition to meeting all applicable requirements under 40 CFR 60, Subpart JJJJ, be in accordance with 3.3.1. Results of this performance testing shall, unless granted in writing a waiver by the Director, be used to determine compliance with the CO, NO_x, and VOC emission limits given under 11.1.2(c).

[45CSR13, R13-3289, 4.3.2.]

- 11.3.3. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

- a. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR §60.8 and under the specific conditions that are specified by Table 2 to 40 CFR 60, Subpart JJJJ.

Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests

For each	Complying with the requirement to	The permittee must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244.	a. limit the concentration of NO _x in stationary internal combustion engine exhaust.	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate	(a) Alternatively, for NO _x , O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ("3-point long line"). If the duct

For each	Complying with the requirement to	The permittee must	Using	According to the following requirements
				is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ac}	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for NO _x concentration.
		v. Measure NO _x at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Method 7E of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (Reapproved 2005) ^{ac} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	b. limit the concentration of CO in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate	(a) Alternatively, for CO, O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and

For each	Complying with the requirement to	The permittee must	Using	According to the following requirements
				select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ac}	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for CO concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.
		v. Measure CO at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Method 10 of 40 CFR part 60, appendix A4, ASTM Method D6522-00 (Reapproved 2005) ^{ac} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	c. limit the concentration of VOC in the stationary internal combustion engine exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate	(a) Alternatively, for VOC, O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Determine the O ₂ concentration of the stationary internal combustion	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60,	(b) Measurements to determine O ₂ concentration must be made

For each	Complying with the requirement to	The permittee must	Using	According to the following requirements
		engine exhaust at the sampling port location;	appendix A-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ae}	at the same time as the measurements for VOC concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.
		v. Measure VOC at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Methods 25A and 18 of 40 CFR part 60, appendices A-6 and A-7, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 of 40 CFR part 60, appendix A-6 ^{cd} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e	(d) Results of this test consist of the average of the three 1-hour or longer runs.

^aAlso, you may petition the Administrator for approval to use alternative methods for portable analyzer.

^bYou may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O₂ content of the exhaust gas as an alternative to EPA Method 3B. AMSE PTC 19.10-1981 incorporated by reference, see 40 CFR 60.17

^cYou may use EPA Method 18 of 40 CFR part 60, appendix A-6, provided that you conduct an adequate pre-survey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (<http://www.epa.gov/ttn/emc/prelim/otm11.pdf>).

^dYou may use ASTM D6420-99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total nonmethane organic. ASTM D6420-99(2004) incorporated by reference; see 40 CFR §60.17.

^eIncorporated by reference; see 40 CFR §60.17.

- b. You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.
- c. You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

- d. To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 of 40 CFR §60.4244:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912 × 10⁻³ = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

- e. To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of 40 CFR §60.4244:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164 × 10⁻³ = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- f. For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of 40 CFR §60.4244:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- g. If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of 40 CFR §60.4244.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_{Mi} = Measured concentration of compound i in ppmv as carbon.

C_{Ai} = True concentration of compound i in ppmv as carbon.

$$C_{i,corr} = RF_i \times C_{i,meas} \quad (\text{Eq. 5})$$

Where:

$C_{i,corr}$ = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{i,meas}$ = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{P,eq} = 0.6098 \times C_{i,corr} \quad (\text{Eq. 6})$$

Where:

$C_{P,eq}$ = Concentration of compound i in mg of propane equivalent per DSCM.

[45CSR16; 40CFR§60.4244]

11.4. Recordkeeping Requirements

- 11.4.1. **Record of Maintenance of Air Pollution Control Equipment.** 1-OXCAT, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-3289, 4.4.2.]

11.4.2. The permittee must keep records of the following information:

- a. All notifications submitted to comply with this subpart and all documentation supporting any notification.
- b. Maintenance conducted on the engine.
- c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- d. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR §60.4243(a)(2), documentation that the engine meets the emission standards.

[45CSR16; 40CFR§60.4245(a)]

11.5. Reporting Requirements

11.5.1. Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in 40 CFR §60.4231 must submit an initial notification as required in 40 CFR §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of 40 CFR §60.4245.

- a. Name and address of the owner or operator;
- b. The address of the affected source;
- c. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- d. Emission control equipment; and
- e. Fuel used.

[45CSR16; 40CFR§60.4245(c)]

11.5.2. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in 40 CFR §60.4244 within 60 days after the test has been completed.

[45CSR16; 40CFR§60.4245(d)]

11.6. Compliance Plan

11.6.1. N/A